

METHOD AND STRUCTURE FOR ENHANCING TRENCH CAPACITANCE

Abstract

A trench capacitor formed with a bottle etch step has a polygonal cross section produced by forming thermally oxidizing the trench walls with thinner oxide at the corners of the trench, then performing the bottle etch step with the nitride in place, thereby extending the trench walls laterally only outside the corners, so that the distance of closest approach between adjacent trenches is reduced while the length of the perimeter is maintained.